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Shipbuilders
Council of
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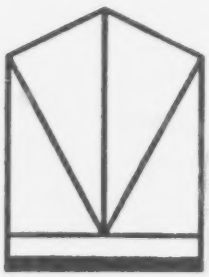
SPECIAL REPORT



# UPDATE ON WORLD SHIPBUILDING SUBSIDIES

**MARCH 1991**

# UPDATE ON WORLD SHIPBUILDING SUBSIDIES

## March 1991

SHIPBUILDERS COUNCIL OF AMERICA
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# EXECUTIVE SUMMARY

## Background

The United States is the only shipbuilding country in the world that does not subsidize its commercial shipbuilding industry. This report describes the shipbuilding subsidy policies and practices of the top six shipbuilding countries in the Organization for Economic Cooperation and Development (OECD), an international body of industrialized nations. The following countries featured in this report held the most orders for building new merchant ships within the OECD as of January 1, 1991: **Japan, South Korea, Germany, Netherlands, Denmark,** and **Italy**.

This document is a follow-on to an earlier report published by the Shipbuilders Council of America (SCA) in October 1988. The 1988 report summarized the types of shipbuilding subsidies in the top ten shipbuilding nations purported to have free market economies as opposed to centrally planned economies. This report, while limited in scope to the top six OECD countries, contains much more detailed information on subsidy practices, including government budgets for shipbuilding-related aid (where known) since 1987.

Events have moved quickly since the 1988 report was issued. First of all, the flurry of new orders placed during the second half of 1988 turned out to be the beginning of a solid recovery of the world shipbuilding market, after nearly a decade of market depression. New ship ordering continued to be strong during 1989 and during the first three quarters of 1990. Because shipbuilding overcapacity shrunk during the 1980s, increased demand generated a significant rise in newbuilding prices. Although the market is currently experiencing a slowdown--due to factors such as a downturn in world economic activity and the Persian Gulf crisis--it is seen as temporary by knowledgeable observers, who are predicting an average yearly newbuilding demand between 1990 and 2000 of around 30 million deadweight tons (dwt). The forecasters are confident because of the need for replacement ships in the world's aging merchant fleet. By 1992, for example, more than 40 percent of the 1990 fleet will be 20 years old.

Realizing that U.S. shipbuilders would not get a share of this improved commercial market in the face of government-subsidized foreign competition, the SCA in June 1989 filed a petition under Section 301 of the U.S. Trade Act. The petition requested the Office of the United States Trade Representative (USTR) to negotiate with Japan, South Korea, West Germany, and Norway to end their shipbuilding subsidy practices. In July 1989, the SCA withdrew its petition at the request of the USTR, in order to allow multilateral negotiations within the OECD framework. However, at this writing, the negotiations have yet to result in an acceptable international agreement to terminate shipbuilding subsidies.

Much of the information contained within this report was brought to light during the process of preparing the 301 petition and the investigations that occurred subsequent to the petition's filing.

The major types of shipbuilding-related subsidies described in this report are the following:

- **Ship Financing Subsidies:** Government-supported ship financing, including loans from government banks, interest subsidies, and/or loan guarantees from federal and regional governments. Export credits encompass government-assisted financing support for export customers who have their ships built in the yards of the country where the aid is provided. Domestic credits encompass government-assisted financing support for domestic-flag ships, which are almost always built in the country of the subsidizing government.

- **Ship Production Subsidies:** Payments by governments directly to shipyards to build, convert, or repair ships.

- **Restructuring/Investment Aid:** Government-provided financial support of ships to help them modernize, restructure, or downsize their facilities, or just stay in business while building ships below cost. This government aid can take the form of capital infusions, loan subsidies and guarantees, government purchases of redundant or outmoded facilities, tax exemptions, debt restructuring, or other actions to cover shipyard operating losses.

- **Research and Development Aid:** Government support of research and development activities related to ships and/or shipbuilding.

TYPES OF SHIPBUILDING SUBSIDIES IN TOP SHIP-PRODUCING NATIONS OF THE OECD

| Country | Ship Financing Subsidies | Ship Production Subsidies | Yard Reorg./ Investment Subsidies | Ship R&D Funding | Tax Benefits |
|---|---|---|---|---|---|
| 1. JAPAN | Yes *** | Unknown | Yes[1] *** | Yes *** | Yes |
| 2. S. KOREA | Yes *** | Unknown | Yes *** | Yes[2] ** | Yes |
| 3. W.GERMANY | Yes *** | Yes *** | Yes *** | Yes ** | Yes |
| 4. NETHER-LANDS | Yes ** | Yes ** | Unknown | Yes | Limited |
| 6. DENMARK | Yes ** | No | Yes | Yes | Limited |
| 10. ITALY | Yes *** | Yes *** | Yes *** | Yes | Yes |

[1] *Japan: Reorganization aid has been increasingly de-emphasized as the market has improved.*
[2] *S. Korea: R&D emphasis has been planned for the 1990s.*

*Keyed where known: *** Very Significant, ** Significant, * Some*

## Conclusions

Based on the information contained in this report, the following conclusions can be drawn:

1. There is a definite correlation between the success of the top shipbuilding countries in capturing the most contracts and the amount of government support they have received and continue to receive. This is particularly true in the top three shipbuilding nations: Japan, South Korea, and Germany.

The following table gives a representative sample of how much money was being requested, budgeted, or disbursed in the late 1980s for shipbuilding-related purposes in the three top shipbuilding countries of the world--Japan, Korea, and Germany--as compared to the U.S.:

**REPRESENTATIVE SHIPBUILDING SUBSIDY PROGRAMS**
**(In Millions of U.S. Dollars)**

| | JAPAN | | KOREA | GERMANY | | U.S. |
|---|---|---|---|---|---|---|
| AID TYPE | 1987/88 | 1989 | 1989 | 1987/88 | 1989 | 1987/89 |
| **Export Credits** | **348.9** | **69.9** | **264.0** | **1,763.7** | **1,616.9** | **0** |
| **Direct Subsidies** | **.1** | **Unknown** | **0** | **655.0** | **208.0** | **0** |
| **Restructuring/ Investment Aid** | **605.4** | **19.2** | **712.3** | **294.8** | **59.7** | **0** |
| **Home Credits** | **1,816.7** | **663.2** | **270.0** | **386.65** | **79.9** | **0** |
| **R&D Aid** | **52.5** | **8.7** | **Unknown** | **17.6** | **Unknown** | **2.9*** |
| **Totals** | **$2,823.6** | **$761.0** | **$1,246.3** | **$3,117.75** | **$1,964.5** | **$2.9** |

** U.S. Government contributions to the National Shipbuilding Research Program.*

2. Shipbuilding subsidies throughout the 1980s kept shipyards alive while they operated at a deficit. And, despite improvements in the commercial shipbuilding market and higher ship prices, governments are continuing to prop up many shipyards that still cannot operate at a profit. In Germany, for example, the lack of profitability on the part of its shipyards is used as a political argument to support the continuation of shipbuilding subsidies.

3. Contrary to statements by some observers, worldwide shipbuilding subsidies are not going down. In fact, in just the three top OECD shipbuilding countries, ***over $4.5 billion*** in new shipbuilding aid has been proposed, budgeted or disbursed since the OECD trade negotiations to end shipbuilding subsidies began in July 1989. The following tables show shipbuilding aid totals budgeted for 1990 and beyond in Japan, South Korea, and Germany:

**JAPANESE SHIPBUILDING AID PROPOSED, BUDGETED, OR APPROVED SINCE OECD TALKS BEGAN**

| Period | Program | Amount |
|---|---|---|
| **JFY 1990** (Announced 8/89) | **Financing for Japanese Ocean-going Vessels** (Provided through the Japan Development Bank below prime rate.) | y66.4b *$458m* |
| **JFY 1990** | **Maritime Credit Corp.** (Financing for Japanese coastal ships.) | y65.9b *$460.8m* |
| **JFY 1990** | **Production Streamlining Program**[1] (Loans for purchase of shipbuilding machinery and equipment.) | y5.656b *$41m* |
| **JFY 1990** | **R&D for 21st Century Vessels**[2] | y5.246b *$10.7m* |
| **JFY 1991** (12/90) | **Development of Environmentally-Sensitive Tanker** | y2.67b *$19.5m* |

*[1]Although the Production Streamlining Program was begun in 1987, its existence was not revealed until the investigations subsequent to the SCA's filing of its Section 301 petition to terminate foreign shipbuilding subsidies.*
*[2]The R&D Program for 21st Century Vessels was announced in March 1989. The JFY 1990 allotment includes loans and subsidies for development of the supertechnoliner and advanced diesel engines.*

**KOREAN SHIPBUILDING-RELATED AID PROPOSED OR APPROVED SINCE OECD TALKS BEGAN**

| Period | Program | Amount |
|---|---|---|
| **1990-2006** (Approved 8/89) | **Daewoo Yard Bailout Package** (plus tax benefits):<br>o Loan to be restructured over 17 yrs (KDB)[1].<br>o Interest lost over 7-yr. grace period.<br>o New loan (KDB).<br>o Guarantee payment of bad debt.(Govt. + Ex-Im)[2]. | <br>w250b *$372.5m*<br>(w140b *$208.0m*)<br>w150b *$223.6m*<br>w220.1b *$258.3m* |
| **1990-2001** | **R&D for Ship Design Automation** | w350b *$492m* |
| **1991** | **Government-Financed Newbuilding Scheme** (KDB) | w190b *$265.5m* |
| **1990-2002** (Announced 9/90) | **Govt. Supported Lease Finance Scheme**<br>Bank consortium of KDB, Korea Exchange Bank, and two private Japanese banks (Hanil and Sumitomo) to finance 5 containerships for Hyundai and Hanjin. | w356.3b *$497m* |

*[1]KDB is the government-supported Korean Development Bank. [2]Ex-Im is the Korean Export-Import Bank.*

**GERMAN SHIPBUILDING-RELATED AID PROPOSED OR APPROVED SINCE OECD TALKS BEGAN[1]**

| Period | Program | Amount | |
|---|---|---|---|
| **1990** | **Direct Contract Subsidies to Shipyards** | dm125.6m (scheduled)<br>dm175.6m (added)<br>dm301.2m | $ 76.1m<br>*106.4m*<br>*$182.5m* |
| **1991/1992** | **Direct Contract Subsidies to Shipyards** | dm405.9m (for '90 contracts)<br>dm463.5m (for new contracts)<br>dm869.4m | *$246m*<br>*300m*<br>*$546m* |
| **1991** | **Interest Aid for Ship Purchases** | dm219.95m | *$133.3m* |
| **1992/1994** | **Interest Aid for Ship Purchases** | dm749.02m | *$484.8m* |
| **1990s** | **Aid for East German Yards**<br>o Subsidies<br>o Loan guarantees | dm830m<br>dm150m a month | *$553m*<br>*100m* |

*[1] Amounts do not include contract aid for shipowners from less-developed nations or R&D aid.*
*[2] Amounts reported were in US$; therefore, the German Deutsche Mark equivalents are approximate.*

Furthermore, the decision by the Commission of the European Community (EC) to progressively lower ceilings on allowable contract-related shipbuilding aid in 1989, 1990, and 1991, has not necessarily decreased the total amounts of this type of government aid available to EC shipyards. In fact, the amount of shipbuilding production aid in Germany has actually gone up each year by an average of 16 percent from 1988 through 1991.

4. Government financing of new ship purchases is a category of subsidy that is being funded at increasingly higher levels as the shipbuilding market has improved. In Germany, for example, the amount of government funding for export ship credits and guarantees in 1989 rose by 500 percent over the amount funded in 1987, as shown in the following table:

**GERMAN GOVT. EXPORT SHIP FINANCING**
**(CREDITS & GUARANTEES)**

| 1987 | 1988 | 1989 |
|---|---|---|
| $208 mil. | $745.2 mil. | $1.258 bil. |

5. Another type of shipbuilding-related subsidy that is on the increase is government-assisted research and development relating to ships and shipbuilding. The Japanese government, for example, decided early in 1989 to subsidize the development of a fast cargo ship, and in late 1990 announced that it was subsidizing the development of an environmentally-sensitive tanker. Meanwhile, the government of South Korea announced that it was providing $492 million to major Korean shipbuilders and research bodies to develop ship design automation by 2001.

6. Investment and restructuring aid in general went down in Europe and Japan when the shipbuilding market improved significantly and prices increased dramatically. The impact of this aid however--which allowed shipyards to close down their unproductive facilities and to modernize and otherwise improve their plants during a market depression--will continue to provide a competitive advantage in the market for years to come. In addition, the German government applied to the EC Commission for an exemption from aid restrictions--similar to the exemption granted to Spain--while the formerly East German yards are being restructured. The cost to the government for this restructuring has been estimated as high as $4 billion.

7. Government ownership of shipyards has been a significant factor in shipbuilding subsidization in Europe, particularly in Germany, Italy, and Spain. Two of Germany's major shipbuilding groups in which there is government equity, Bremer Vulkan and Howaldtswerke Deutsche Werft (HDW), are examples. During the hard times of the mid-1980s, these yards received cash infusions and guarantees from both the federal and regional governments in Germany to keep them going, and were especially favored in the allocation of ship production subsidies to capture contracts.

**TO SUM UP,** while some types of shipbuilding-related aid programs are being phased out because they have achieved their purpose, other programs are being expanded and new subsidy programs are being created in the top shipbuilding countries of the world in order to secure their market niches. And they are succeeding, as the world orderbook demonstrates.

# UPDATE ON WORLD SHIPBUILDING SUBSIDIES

## 1. OVERVIEW

### 1.1 Shipbuilding Subsidies in the 1980s

Shipbuilding subsidies skyrocketed during the 1980s, as commercial shipyards suffered from the worst market depression in the 20th century, precipitated by the oil crisis of the mid-1970s. This shipbuilding downcycle was unusually severe because it had been preceded by a period of massive speculative overbuilding. During the early part of the decade, governments of every shipbuilding country in the world except one made decisions to pour money into their commercial shipyards. The lone exception was the United States, which terminated its shipbuilding subsidies instead. (Later in the decade, Canada and Sweden sharply cut their shipbuilding-related aid.)

The majority of the yards that captured the most contracts in the 1980s were propped up by their governments while they produced ships below cost. They received government payments to modernize their facilities (restructuring and investment aid), indirectly benefited from government-supported ship financing provided to their export and domestic customers (export credits and home credits), and realized special tax benefits. In addition, many of these foreign yards were awarded government grants (direct subsidies) to capture shipbuilding and repair contracts, and benefited from government-aided research and development of advanced manufacturing technology. U.S. yards had none of these advantages.

Although the world shipbuilding market began to turn around in 1988, foreign yards continued to depend on government support to capture contracts and build ships. The following table gives a representative sample of how much money was being requested, budgeted, or disbursed in the late 1980s for shipbuilding-related purposes in the three top shipbuilding countries of the world--Japan, Korea, and Germany--as compared to the U.S.:

**REPRESENTATIVE SHIPBUILDING SUBSIDY PROGRAMS**
**(In Millions of U.S. Dollars)**

| | JAPAN | | KOREA | GERMANY | | U.S. |
|---|---|---|---|---|---|---|
| AID TYPE | 1987/88 | 1989 | 1989 | 1987/88 | 1989 | 1987/89 |
| Export Credits | 348.9 | 69.9 | 264.0 | 1,763.7 | 1,616.9 | 0 |
| Direct Subsidies | .1 | Unknown | 0 | 655.0 | 208.0 | 0 |
| Restructuring/ Investment Aid | 605.4 | 19.2 | 712.3 | 294.8 | 59.7 | 0 |
| Home Credits | 1,816.7 | 663.2 | 270.0 | 386.65 | 79.9 | 0 |
| R&D Aid | 52.5 | 8.7 | Unknown | 17.6 | Unknown | 2.9* |
| Totals | $2,823.6 | $761.0 | $1,246.3 | $3,117.75 | $1,964.5 | $2.9 |

** U.S. Government contributions to the National Shipbuilding Research Program.*

Through the mid to late 1980s, shipyard restructuring and investment aid provided by governments received heavy emphasis in Japan and in many of the countries of the European Community (EC) in order to reduce shipbuilding overcapacity and to allow shipyards to modernize. The EC also emphasized contract-related shipbuilding aid. In Korea, shipbuilders were creating new shipbuilding capacity and capturing market share by lowballing ship prices.

## 1.2 Shipbuilding Subsidies in the 1990s

As market demand for new ships picked up at the end of the 1980s and into the 1990s, emphasis on the types of foreign shipbuilding subsidies shifted. For example, Japan dissolved its shipbuilding cartel and focused government support on the development of advanced technology ships. In Korea, the government responded to massive shipyard debts with a generous bail-out package. In the European Community, ceilings for contract-related grant aid were lowered, paving the way for a shift in the thrust of government support to ship financing aid to attract export customers to their respective country's shipyards.

Throughout most of the 1980s, the justification for foreign shipbuilding subsidies was low demand. In the 1990s so far, however, the reluctance of many foreign shipbuilders to let go of government subsidies is caused by the desire to capture as many contracts as possible while demand is high, and while denying market access to U.S. shipyards. As the following table illustrates, the international commercial shipbuilding market has improved dramatically during the past three years in terms of the numbers of new ships ordered. In addition, ship prices took a sharp upward turn in 1989 and 1990, so that some international yards are realizing profits for the first time in nearly a decade. Despite the current economic recession, the Persian Gulf conflict, and other factors which are causing a temporary slowdown in the market, it is expected that a general upturn in orders will occur throughout the 1990s, based on ship replacement needs in the world's merchant fleet.

QUARTERLY COMPARISONS OF COMMERCIAL SHIP ORDERS WORLDWIDE

| | 1990 | | 1989 | | 1988 | |
|---|---|---|---|---|---|---|
| Qtr. | New | Total | New | Total | New | Total |
| Jan/Mar | 346 | 1,655 | 68 | 1,074 | 135 | 830 |
| Apr/Jun | 331 | 1,846 | 212 | 1,124 | 127 | 895 |
| Jul/Sep | 241 | 1,928 | 215 | 1,257 | 168 | 971 |
| Oct/Dec | 168 | 1,907 | 279 | 1,433 | 144 | 1,016 |

*Excludes passenger vessels, government ships, and offshore and miscellaneous vessels.*

## 1.3 SCA Trade Petition and Subsequent Trade Negotiations

In June 1989, the Shipbuilders Council of America (SCA) filed a petition under Section 301 of the U.S. Trade Act requesting the Office of the United States Trade Representative (USTR) to take unilateral action against Japan, South Korea, West Germany, and Norway to end

their shipbuilding subsidy practices. In July 1989, the SCA withdrew, its petition at the request of the USTR, in order to allow multilateral negotiations within the framework of the Organization for Economic Cooperation and Development (OECD). As shipbuilding enters 1991, however, the negotiations have yet to result in an acceptable international agreement among the parties to terminate subsidies.

Ironically, the detrimental effect of shipbuilding subsidies on the market, ship prices, and competition was recognized as early as 1983, when the OECD nations that were members of Working Party Six signed an agreement to refrain from increasing aid or adding new shipbuilding subsidies, and to gradually eliminate existing subsidies. This agreement, however, was largely ignored.

While the OECD negotiations drag on, the outlook for the termination of shipbuilding subsidies gets bleaker and bleaker. The clear message conveyed by the European Community, Japan, and South Korea--the primary participants in the talks, along with the U.S.--is that they do not want to end their current subsidy programs, nor do they want to be hampered from creating new programs--at least not until they are confident that their subsidy programs have secured comfortable market niches for their shipbuilding industries.

The following tables show the kinds and amounts of shipbuilding-related aid proposed, approved, or budgeted in the top three OECD shipbuilding countries since the OECD shipbuilding subsidy negotiations began.

**JAPANESE SHIPBUILDING AID PROPOSED, BUDGETED, OR APPROVED SINCE OECD TALKS BEGAN**

| Period | Program | Amount |
|---|---|---|
| **JFY 1990** (Announced 8/89) | **Financing for Japanese Ocean-going Vessels** (Provided through the Japan Development Bank below prime rate.) | y66.4b *$458m* |
| **JFY 1990** | **Maritime Credit Corp.** (Financing for Japanese coastal ships.) | y65.9b *$460.8m* |
| **JFY 1990** | **Production Streamlining Program**[1] (Loans for purchase of shipbuilding machinery and equipment.) | y5.656b *$41m* |
| **JFY 1990** | **R&D for 21st Century Vessels**[2] | y5.246b *$10.7m* |
| **JFY 1991** (12/90) | **Development of Environmentally-Sensitive Tanker** | y2.67b *$19.5m* |

[1]*Although the Production Streamlining Program was begun in 1987, its existence was not revealed until the investigations subsequent to the SCA's filing of its Section 301 petition to terminate foreign shipbuilding subsidies.*

[2]*The R&D Program for 21st Century Vessels was announced in March 1989. The JFY 1990 allotment includes loans and subsidies for development of the supertechnoliner and advanced diesel engines.*

**KOREAN SHIPBUILDING-RELATED AID PROPOSED OR APPROVED SINCE OECD TALKS BEGAN**

| Period | Program | Amount | |
|---|---|---|---|
| **1990-2006** (Approved 8/89) | **Daewoo Yard Bailout Package** (plus tax benefits):<br>o Loan to be restructured over 17 yrs (KDB)[1].<br>o Interest lost over 7-yr. grace period.<br>o New loan (KDB).<br>o Guarantee payment of bad debt.(Govt. + Ex-Im)[2]. | <br>w250b<br>(w140b<br>w150b<br>w220.1b | <br>*$372.5m*<br>*$208.0m*)<br>*$223.6m*<br>*$258.3m* |
| **1990-2001** | **R&D for Ship Design Automation** | w350b | *$492m* |
| **1991** | **Government-Financed Newbuilding Scheme** (KDB) | w190b | *$265.5m* |
| **1990-2002** (Announced 9/90) | **Govt. Supported Lease Finance Scheme**<br>Bank consortium of KDB, Korea Exchange Bank, and two private Japanese banks (Hanil and Sumitomo) to finance 5 containerships for Hyundai and Hanjin. | w356.3b | *$497m* |

[1]*KDB is the government-supported Korean Development Bank.* [2]*Ex-Im is the Korean Export-Import Bank.*

**GERMAN SHIPBUILDING-RELATED AID PROPOSED OR APPROVED SINCE OECD TALKS BEGAN[1]**

| Period | Program | Amount | |
|---|---|---|---|
| **1990** | **Direct Contract Subsidies to Shipyards** | dm125.6m (scheduled)<br>dm175.6m (added)<br>dm301.2m | $ 76.1m<br>*106.4m*<br>*$182.4m* |
| **1991/1992** | **Direct Contract Subsidies to Shipyards** | dm405.9m (for '90 contracts)<br>dm463.5m (for new contracts)<br>dm869.4m | *$246m*<br>*300m*<br>*$546m* |
| **1991** | **Interest Aid for Ship Purchases** | dm219.95m | *$133.3m* |
| **1992/1994** | **Interest Aid for Ship Purchases** | dm749.02m | *$484.8m* |
| **1990s** | **Aid for East German Yards**<br>o Subsidies<br>o Loan guarantees | dm830m<br>dm150m a month | *$553m*<br>*100m* |

[1] *Amounts do not include contract aid for shipowners from lesser-developed nations or R&D aid.*
[2] *Amounts reported were in US$; therefore, the German Deutsche Mark equivalents are approximate.*

## 2. TYPES OF SHIPBUILDING SUBSIDIES

This section concentrates on the major types of shipbuilding subsidies found in the six top shipbuilding countries of the Organization for Economic Cooperation and Development: Japan, South Korea, Germany, Netherlands, Denmark, and Italy. The following table shows the major types of shipbuilding subsidies in these countries. The table is followed by detailed descriptions of the subsidy types, with the exception of tax benefits, which are too complex to be included in this report.

**TYPES OF SHIPBUILDING SUBSIDIES IN TOP SHIP-PRODUCING NATIONS OF THE OECD**

| Country | Ship Financing Subsidies | Ship Production Subsidies | Yard Reorg./ Investment Subsidies | Ship R&D Funding | Tax Benefits |
|---|---|---|---|---|---|
| 1. JAPAN | Yes *** | Unknown | Yes[1] *** | Yes *** | Yes |
| 2. S. KOREA | Yes *** | Unknown | Yes *** | Yes[2] ** | Yes |
| 3. W.GERMANY | Yes *** | Yes *** | Yes *** | Yes ** | Yes |
| 4. NETHER-LANDS | Yes ** | Yes ** | Unknown | Yes | Limited |
| 6. DENMARK | Yes ** | No | Yes | Yes | Limited |
| 10. ITALY | Yes *** | Yes *** | Yes *** | Yes | Yes |

[1] *Japan: Reorganization aid has been increasingly de-emphasized as the market has improved.*
[2] *Korea: R&D emphasis has been planned for the 1990s.*

***Keyed where known:*** *** *Very Significant,* ** *Significant,* * *Some*

## 2.1 Ship Financing Subsidies

This category includes government-supported ship financing for foreign customers (export credits) or domestic customers (home credits) who have their ships built in the yards of the country where the aid is provided. Such assistance may include loans, interest subsidies, and/or loan guarantees fully or partially supported by federal or regional banks or other state institutions. Government-supported ship financing is considered an indirect subsidy to the yards that build the ships. With few exceptions, the building yard is located in the country of the subsidizing government.

Systems for the provision of government-assisted finance are thoroughly entrenched in Japan, South Korea, the European Community, and elsewhere. Even though the popularity of the financing programs ebbs and flows (depending on whether or not cheaper credit can be gotten elsewhere and other factors), the existence of the systems for publicly-assisted finance are vital to the ability of governments to successfully subsidize their shipbuilding industries, not only in terms of helping shipyards to capture contracts but also by allowing shipyards to produce ships below cost and still survive. (On the latter point, see subsection 2.3 on restructuring/investment aid.) Such systems include national development banks, which provide government-assisted finance to indigenous industries, and export-import banks.

**Export Credits** - In addition to having access to government-assisted loans, export ship purchasers can have the loans insured or guaranteed by the government. In Japan, for example, the Ministry of International Trade and Industry underwrites ship export loans from private banks as well as government loans or a combination of government-private loans. In Germany, 90 percent export credit insurance can be obtained with the government assuming the risk. The availability of government insurance/guarantees on loans gives commercial financial institutions a strong incentive to finance ships for export customers, since the commercial and political risk is borne by the government.

Members of the OECD are supposed to adhere to the terms of the OECD's Understanding on Export Credits for Ships, which currently sets a maximum of 80 percent financing over 8½ years at 8 percent interest. [The OECD is moving toward adopting commercial interest reference rates (CIRR).] However, there are no restrictions on government help if the shipowner is from a lesser-developed country.

Emphasis on government-supported financing to attract ship export customers increased dramatically in some OECD countries after the world shipbuilding market began to recover, particularly in some European Community nations. One example is Germany. As the following table shows, government guarantees on ship export loans in 1989 took a spectacular jump in 1989 to over 10 times the 1987 amount, and export credit financing in 1989 was nearly 3½ times the 1987 amount. The federal government of Germany can use its own reconstruction bank, Kreditanstalt fuer Wiederaufbau (KfW), to provide export ship loans, based on dollar-loan interest rate subsidies of up to four percent and for up to two percent for Deutschemark-based loans. KfW reported that it dispensed $1.35 billion dollars during 1989, which was about 43 percent more than it dispensed in 1988 and more than triple the dm764 million dispensed in 1987.

ESCALATION IN GERMAN GOVERNMENT FINANCING AID FOR EXPORT SHIPS

| Year | Export Credits | | Guarantees | | LDC Ship Financing Aid | |
|---|---|---|---|---|---|---|
| *1987* | dm223m | *$124m* | dm151m | *$84m* | dm328m | *$182.4m* |
| *1988* | dm689m | *$382.1m* | dm638m | *$363.1m* | dm956m | *$544.1m* |
| *1989* | dm776m | *$412.6m* | dm1,590m | *$845.4m* | dm675m | *$358.9m* |

**Home Credits** - This category of aid covers various kinds of financing assistance to domestic owners to have new ships built, almost always in the shipyards of the subsidizing country. It can include loans through government-backed banks, interest assistance, and guarantees. The table below gives examples of budgets for home credit schemes in Japan, South Korea, and Germany, in national currencies and approximate U.S. dollar equivalents. The programs listed are more fully described in the subsequent table, which summarizes the major export and domestic ship financing programs in the top six OECD shipbuilding nations.

## EXAMPLES OF HOME CREDIT SCHEMES

| Country | Program | Budgeted 1988 | Budgeted 1989 | Budgeted 1990 |
|---|---|---|---|---|
| JAPAN | **Keikaku Zosen (Planned Shipbuilding Scheme).** Financing aid for Japanese flag, ocean-going vessels. | Yen US$<br>45b *314.7m* | Yen US$<br>40b *279.8m* | Yen US$<br>42b *289.7m*<br>Requested:<br>66.4b *458m* |
| | **Maritime Credit Corp.** Financing aid for Japanese coastal ships. | 47.7b *333.6m* | 64.8b *383.2m* | 65.9b *460.8m* (Proposed) |
| S. KOREA | **Govt.-Financed Newbuilding Scheme.** Ship financing for S. Korean shipping companies. | Data unavailable | Won US$<br>180b *270m* | Won US$<br>190b *265.5m* |
| GERMANY | **Finance Assistance Scheme for W. German-Flag Ships.** | DM US$<br>180m *102.5m* | DM US$<br>120m *63.8m* | DM US$<br>120m *63.8m* |
| | **State Credit Guarantees.** | Not disclosed | Not disclosed | Not disclosed |
| ITALY | **Interest Assistance Program.** Interest subsidies paid on Italian flag ships. | Lira US$<br>123.5b *90m* | Lira US$<br>122b *98m* | Lira US$<br>131b *105.2m* |
| | **Finmare Grants.** Depreciation subsidies on new ships in the state-owned fleet. | Not disclosed | Not disclosed | Not disclosed |

## SUMMARY OF SHIP FINANCING PROGRAMS IN THE TOP SIX OECD SHIPBUILDING COUNTRIES

| Country | Govt.-Assisted Financing Programs for Ships Built in Subsidizing Country |
|---|---|
| JAPAN | o Export ship financing is available through a combination of funds from Japan's Export-Import Bank and commercial banks, generally under the credit terms of the OECD's Understanding on Export Credits for Ships; i.e., a maximum of 80 percent financing over 8½ years at 8 percent interest. Export insurance is underwritten by the Ministry of International Trade and Industry.<br><br>o Domestic financing of Japanese ocean-going vessels is available through the Planned Shipbuilding Scheme of the Ministry of Transport (MOT), which typically provides 50-70 percent loans from the Japan Development Bank (JDB) at rates below the prime rate of the Bank of Japan with 13 years to repay, including a 3-year grace period. High-technology ships emphasized by the MOT get the better financing terms.<br><br>o Domestic financing of Japanese coastal vessels operated by domestic shipping lines and harbor transport companies is available through the Maritime Credit Corporation. |

| Country | Govt.-Assisted Financing Programs for Ships Built in Subsidizing Country |
|---|---|
| S. KOREA | o Export ship financing is available through the Korean Export-Import Bank. Export guarantees are also available. In 7/90, Ex-Im announced it would pay Daewoo Shipyard $200 million on the export insurance claim. In addition to Ex-Im financing, the Govt. in Nov. 1990 announced it was opening up to foreigners financing from the Korean Development Bank (KDB) through the Government-Financed Newbuilding Scheme (GFNS).<br><br>o Domestic ship financing is available through the Korean Development Bank under the Government-Financed Newbuilding Scheme (GFNS) in conjunction with new-construction recommendations of the state-run Korea Maritime and Port Admin. and approvals by the KDB, which loans the money. The KDB offers 80% financing for 10.5 yrs. including 3 yr. grace. Interest rates in 9/90 were 8.178% on the domestic currency portion of a loan and 1.25 over LIBOR on the foreign currency portion. (In 11/90, the Govt. was considering raising the downpayment requirement to 40%.)<br><br>o Foreign lease finance can also be used for ships funded under the GFNS and built in Korean yards. Such financing can be provided by a consortium of domestic and foreign government banks and private banks under terms more favorable than a straight KDB loan. |
| GERMANY | o Export ship financing is available to purchasers from industrialized nations at OECD export credit rates. (There are no limits on terms for ship purchases from lesser-developed countries.) Export finance is handled through the government reconstruction bank KfW, subsequent to insurance approval by Hermes, with the federal government carrying the risk.<br><br>o Domestic ship financing is available as interest-free loans for German-flag ships exceeding dm7 million. Owners get between dm200,000 and 600,000 per year per ship, depending on price. Loan repayments can be waived under certain conditions. The government can also make interest subsidies available to domestic shipowners.<br><br>o Regional guarantees can be provided by the governments of the four coastal states to domestic and foreign shipowners for the purchase of merchant ships if they cannot be secured through ship mortgages. |
| NETHERLANDS | o Interest subsidies are available to Dutch industries from the Export Finance Facility to match the subsidized foreign competition. NCM, which handles all Dutch credit insurance, can have medium and long-term risks reinsured by the Central Bank of The Netherlands, the Ministry of Economic Affairs, or the State Committee for Export, Import, and Investment Guarantees. There are no separate export credit facilities just for ships. |

| Country | Govt.-Assisted Financing Programs for Ships Built in Subsidizing Country |
|---|---|
| DENMARK | o Export ship financing is available at OECD export credit rates for ships, with interest subsidies provided by the Ship Credit Fund. Guarantees are covered by the Danish central bank to the loan value and the government covers borrowers who take out index loans against excessive inflation.<br><br>o Domestic ship financing is available through the Ship Credit Fund as interest-subsidized loans until 1992, with progressive reduction in the aid element and replacement with terms under the OECD Understanding. |
| ITALY | o Export ship financing includes refinancing support as well as interest subsidies paid biannually through the Medicredito Centrale to cover the difference between the Italian market rate and the OECD rate. Export credit insurance and guarantees are available from SACE. Govt.-assisted export credits took a big jump in 1989 (from $845,000 to $632.7 million) when the Italian Parliament took action on a subsidy bill that had been delayed for two years. The large amount authorized for export credits in 1989 also shows a shift in emphasis to concessionary financing.<br><br>o Domestic ship financing includes interest subsidies, calculated by adding two points to the reference rate, paid on Italian-flag ships. Subsidies equivalent to the first five years of depreciation (amounting to about 30% of the price) are allowed on a new ship in the state-owned fleet, Finmare. |

## 2.2 Ship Production Subsidies

Ship production subsidies encompass government grants paid directly to shipyards to cover a percentage of the contract price for building, converting, or repairing a ship. This type of aid has been particularly popular in the European Community and was intended to close the gap between EC shipbuilding prices and those of yards outside the EC, primarily in the Far East. The governments of EC-member countries are supposed to keep within the ceilings set by the Commission (although they do not always do so) and to notify the Commission about each issuance of shipbuilding aid. [As mentioned previously, EC shipbuilding aid associated with a contract to build for a ship owner from a lesser-developed country is unrestricted.] EC fishing vessel construction/conversion has its own rules and can be subsidized above the production aid ceilings set for other vessels.

The EC's *Sixth Directive,* effective between Jan. 1, 1987, and Dec. 31, 1990, contained the policies and regulations concerning ship production aid, as well as investment and restructuring aid, and some forms of indirect aid. Subsidy ceilings, which could be set annually, were 28 percent (of ship contract price) in 1987 and 1988, 26 percent in 1989, and 20 percent in 1990. Spain and Portugal were exempted from the ceilings through Dec. 31, 1990.

In May 1990, the EC Commission announced it was proposing a *Seventh Directive,* effective Jan. 1, 1991, to prolong the basic policy of the Sixth Directive through 1992. The aid ceiling, however, was lowered to 13 percent. The EC's Competition Commissioner, Leon Brittan, had recommended that the ceiling be limited to 11 percent, with 9 percent based on ship prices plus an additional 2 percent to account for the Persian Gulf factor. In addition, the

Spanish government does not have to comply with the shipbuilding aid ceiling until 1992; it was given another year's exemption. The following table shows the subsidy ceilings for major EC shipbuilding nations.

**MAXIMUM CONTRACT AID PERCENTAGE AUTHORIZED FOR MAJOR EC SHIPBUILDING NATIONS**

| Country | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|
| BELGIUM | 28% | 28% | 26% | 20% |
| DENMARK | No Provision (10% Est.) | No Provision (10% Est.) | No Provision (10% Est.) | No Provision (10% Est.) |
| FRANCE | 28% | 28% | 26% | 20% |
| GERMANY | 20% | 20% | 20% | 14% |
| GREECE | 28% | 28% | 26% | 20% |
| ITALY | 28% | 28% | 26% | 20% |
| NETHERLANDS | 5%-10% Actual: 5%-19% | 10% Actual: 10%-19% | 10% Actual: 10%-19% | 10% Actual: 10%-19% |
| PORTUGAL | No Ceiling | No Ceiling | No Ceiling | No Ceiling |
| SPAIN | No Ceiling | No Ceiling | No Ceiling | No Ceiling |
| U.K. | 28% | 28% | 26% | 20% |

Examples of Ship Production Aid in the EC - In Germany, a four-year ship production aid program was put into place in 1988 with a budget of dm700 million (about $372 million), not including grant aid for contracts with owners from lesser-developed countries. The federal government contributed two-thirds of the budget and the German states one-third. However, the subsidy money ran out early, due to the increased number of orders captured by German shipbuilders as the market picked up. As a result, in August 1989, the government announced it was adding another dm200 million to subsidize contracts placed on hold awaiting the subsidies. This aid also was used up quickly, so that more contracts were placed on hold as shipbuilders pleaded for and politicians demanded more money.

Consequently, the government's plan to discontinue the ship production grants (while granting more aid for ship financing) in 1991 was derailed, and the government announced in October 1990 that it was adding another dm450 million ($300 million) instead. German shipbuilders were disappointed with the amount, however, having asked for dm850 million ($567 million) to get them through 1991 and 1992. The latest tranche of government aid incorporated dm186 million ($112.7 million) to finalize contracts that had been awaiting subsidies, including a subsidy on a dm600 million ($363 million) contract from the East German DSR Lines for six containerships.

In Italy, shipbuilding subsidies were in the region of 60 percent before the EC's Sixth Directive was passed. Between Jan. 1987 and Jan. 1990, Italian yards subsisted on a hefty backlog of orders placed in late 1986 in order to take advantage of the more generous subsidies allowed under the EC's Fifth Directive. During 1987 and 1988, 18 orders were put on hold awaiting action on a shipbuilding aid bill which required authorization by the Italian Parliament under the terms of the EC's Sixth Directive. Italy's state-owned domestic fleet Finmare receives special benefits authorized by law in late 1986.

Italian yards are allowed to subsidize contracts up to the ceilings set by the EC Commission. However, one source has reported that Italy stays within the EC limits only when it is competing against other EC member countries but provides subsidies up to 28 percent when competing against non-EC members. Of particular interest to U.S. shipbuilders is the subsidization of cruise liner construction by the Italian government. The major recipient of this aid has been Fincantieri, the state-owned conglomerate that controls about 70 percent of Italian shipbuilding capacity. At the beginning of 1990, Fincantieri had seven passenger vessels worth $2.55 billion on its orderbooks. The level of subsidy paid on these ships has not been revealed.

The following table shows the government budgets for direct shipbuilding grants in Germany, Italy, and the Netherlands.

EXAMPLES OF SHIP PRODUCTION SUBSIDY BUDGETS IN THE EC

| Country | 1988 | 1989 | 1990 | 1991 |
|---|---|---|---|---|
| GERMANY | DM US$<br>262m[1] 149.1m | DM US$<br>295m[2,3] 156.9m | DM US$<br>343m[2,4] 208m | DM US$<br>406m[2,5] 246m |
| ITALY | Lira US$<br>320b 245.8m | Lira US$<br>240b 174.9m | Lira US$<br>83b 66.7m | Lira US$<br>222b 178.3m |
| NETHERLANDS | DFL US$<br>155m *78.7m* | DFL US$<br>100m *46.7m* | DFL US$<br>95m *53.2m* | Unknown |

[1] **Germany, 1988:** The dm262m was for shipbuilding contracts with owners from industrialized nations. Grant aid for shipbuilding contracts with LDC owners came to dm483.56m, for a total of dm745.56m ($424.3m) in grant aid.

[2] **Germany, 1989, 1990, 1991:** Amounts did not include aid on contracts with LDC shipowners.

[3] **Germany, 1989:** The amount budgeted for 1989 (dm295m) ran out early in the year, so the states announced they were adding another dm250m. It is not clear if the states really added the extra money. If they did, the 1989 figure would have been ***dm545m.***

[4] **Germany, 1990:** The govt. added dm200m to the scheduled allotment of dm143m.

[5] **Germany, 1991:** The govt. started a new subsidy program, which included dm186m ($112.7m) to finalize contracts that had been put on hold awaiting government assistance.

## 2.3 Restructuring/Investment Aid

This category of aid encompasses government-provided financial support of shipyards to help them modernize, restructure, or down-size their facilities, or just stay in business. The government aid can take the form of capital infusions, loan subsidies and guarantees, government

buy-ups of redundant or outmoded facilities, tax exemptions, debt bail-outs, or other actions to cover shipyard operating losses. The following table summarizes the major restructuring and investment programs in Japan, S. Korea, Germany, and Italy.

**EXAMPLES OF RESTRUCTURING/INVESTMENT AID IN FOUR LEADING SHIPBUILDING NATIONS**

| Country | Year(s) - Budget(s) | Program(s) |
|---|---|---|
| **JAPAN** | 1987/1991: $592.6m<br>$370.4m<br><br>$222.2m<br><br><br><br>1987/1990: $164m<br>$65.6m JDB portion.<br><br>($41m annual budget, $16.4m JDB portion.) | Five-Year Shipyard Rationalization Program<br>--Govt. guarantees for debt payments for reorganizing or scrapping redundant shipyard docks/facilities.<br>--Govt. purchases of redundant docks/facilities.<br>--10% tax exemption on capital investment to convert to other industry, plus other tax benefits.<br><br>Production Streamlining Program<br>Aid to shipyards for the purchase of automated or high-efficiency machinery and equipment. Funds are a mix of 60% private banks and 40% from the Japan Development Bank. (Amounts utilized were generally less than the amounts allocated.) |
| **S. KOREA** | 8/28/89 announced<br><br><br><br>1990/1997: $208m<br><br><br>1990/2007: $223.6m<br><br>1990: $116m<br><br>Jul 1990/1995:$200m | Shipyard Rescue Program<br>Govt. provision of interest-free loans, debt moratoriums, tax exemptions, and other benefits. Includes:<br>Daewoo Bailout Package<br>--Interest write-off from the Korean Development Bank (KDB) during the 7-yr. hiatus on Daewoo's won250b ($372m) debt. Yard has 17 years to pay off the debt.<br>--New govt. loan for 17 years, with 7-yr. grace period (not interest-free).<br>--Amount to be paid by Govt. for 1984 contract default by U.S. Lines.<br>--Amount to be paid on guarantee of above by Korean Export-Import Bank. |
| **GERMANY** | 1987: $ 89m<br>1988/1989: $215.3m<br><br><br><br><br><br>1990s<br>$553m<br>$100m a month | Investment and Operating Aid<br>--Known capital injections, guarantees, and loans to the following shipyards: HDW, Flensburger, Deutsche Industrie Works, Speyer, Lindenau, Surken Werft, Neve Jadewerft, and Bremer Vulkan (BV). Bulk of the 1987 aid went to HDW and BV, both of which are partially government-owned. Bulk of the federal aid and the regional aid (from Schleswig Holstein) went to HDW in 1988/89.<br><br>Aid for East German Yards during Unification<br>--Yard subsidies.<br>--Loan guarantees. |

| Country | Year(s) - Budget(s) | Program(s) |
|---|---|---|
| ITALY | | Loss Compensation Aid |
| | 1987: $ 69.4m<br>1988: $106.5m | --Losses of the state-owned Fincantieri shipyards approved 6/90 by the EC Commission. 1989 and 1990 losses not disclosed. |
| | 1987: $ 31.m<br>1988: $ 16.9m | --Actual payments defined by the EC as inconsistent with normal commercial terms associated with govt. participation in shipyards. |
| | 1987: $ 00.871m<br>1988: $ 39.3m<br>1989: $ 15.7m<br>1990: $ 16.1m | Modernization Aid<br>Govt. grants to shipyards to invest in production facilities and modernization. Budgeted amount shown for 1990. The aid represents govt. contributions equal to 40% annually. |

Japan - Between 1937 and 1971, shipbuilding in Japan was one of six industries targeted by the government for intensive development, and by 1951 credit was being made available through the Japan Development Bank (JDB) for the construction and installation of shipbuilding facilities. Although this aid was discontinued in 1971 (except for regional development purposes), by 1978 facilities aid was reintroduced. But this time it was for another purpose: to help Japanese shipbuilders reduce the massive overcapacity that the government had encouraged, streamline their operations, and purchase more efficient equipment.

In return for a commitment by the industry to downsize, the government allowed shipbuilders to form a cartel to promote mergers and share ordering; bought up unproductive facilities; provided interest payment subsidies on bank loans owed; provided debt guarantees; granted special tax benefits, and provided financial aid and loan guarantees associated with the mothballing of facilities. Government buy-ups allowed yards to unload their unproductive facilities, so that the yards could operate at a deficit while making government-assisted improvements. Although the cartel has been disbanded and the Japanese government has reported that the sums allocated for reorganization aid have declined, the impact of these policies and actions will last far beyond their years of implementation.

The Japanese government also helps fund the Production Streamlining Program, which makes available to Japanese shipbuilders loans at the most favorable rate of financing for the purchase of automated or high-efficiency machinery and equipment. This has allowed shipbuilders to make government-assisted improvements in their ship-production facilities even though they were operating at a deficit. The existence of this program became known after the SCA filed its 301 Petition. Program funds are a mix of 40% from the Japan Development Bank and 60% from private banks. The interest rates for the Production Streamlining Program is the JDB "Class 5 rate," which is below prime and is the most favorable JDB rate. Utilization of these funds by shipyards was low when loans could be obtained from private banks at a good rate and with less restrictions than those imposed by the program.

There is evidence that Japanese shipbuilding has also benefitted from local government aid for restructuring which may be continuing on a small scale. The Government of Japan has not disclosed any details about this aid.

**South Korea** - South Korea built up its shipbuilding industry in the 1980s by offering rock-bottom prices. As a result, it piled up enormous debts to the state-controlled Korean Development Bank. At the time of the filing of SCA's petition in June of 1989, the debt of the four major South Korean yards was $4 billion, equivalent to four times their equity capital. In 1989, these shipyards suffered a combined loss of won280 billion ($399 million), which was a slight improvement over 1988 losses of w312 billion in 1988. Daewoo Shipbuilding and Heavy Machinery suffered the biggest loss, followed by the Korea Shipbuilding & Engineering Co. (KSEC). The shipbuilding divisions of Hyundai and Samsung made profits, but their profit figures were helped by the non-shipbuilding divisions of these conglomerates.

On August 28, 1989, the South Korean government approved a rescue package for Daewoo and two other yards consisting of interest-free loans, debt moratoriums, and tax exemptions, with Daewoo as the primary beneficiary. Repayment of w250 billion ($372.7 million) of Daewoo's w1.4 trillion ($2.1 billion) debt to the Korean Development Bank was put off for seven years, after which the yard will have ten years to repay. The seven-year interest exemption is equal to w140 billion ($208 million) in financial support for the yard. Daewoo was also awarded a new KDB loan of w150 billion ($223.6 million) on the same terms as the debt rescheduling. In addition, the government agreed to subsidize the amount the yard lost on the 1984 U.S. Lines contract, which was guaranteed by the Korean Export-Import Bank. Originally, the government agreed to pay w77.8 billion ($116 million) and the Ex-Im Bank the remainder. In July 1990, Ex-Im agreed to pay w142.3 billion ($200 million) in tranches through 1995 to cover 90 percent of Daewoo's claim of w175.8 billion.

Daewoo was also granted exemptions from taxes and other legal restrictions on divestments and mergers. As part of the shipyard rescue package, KSEC, which had debts of w58 billion ($86.5 million), was awarded tax cuts, easy loan terms, and other unspecified financial aid in return for being taken over by the Hanjin Group, owner of Hanjin Shipping Co. In addition, a smaller shipyard, Inchon Shipbuilding was exempted from certain capital investment restrictions.

**Germany** - As of February 1987, the regional governments of the German coastal states were given responsibility for providing aid for the rationalization, modernization, conversion, and diversification of shipyards within their respective boundaries. Nevertheless, the federal government continued to provide operating aid to shipyards, primarily in the form of capital injections to the HDW shipbuilding organization in which it has an equity stake. Regional government aid allowed by law includes 30 percent investment aid, an additional 5 percent if the yard converts to other than shipbuilding activities, and 50 percent cost-assistance in shipyard closures. The coastal states also may grant limited credit guarantees for the purchase of commercial ships and may guarantee 80 to 100 percent of second mortgages for newbuildings and/or conversions. In August 1988, Schleswig-Holstein Economics Minister Franz Froschmaier remarked that over the past five years the state had pumped nearly $195 million into shipbuilding, about half in grants and half as credit guarantees.

One of the biggest issues facing German shipyards in the 1990s is the cost of the debts and projected losses associated with the shipyards of east Germany that must be absorbed during

the reunification process. Germany has already applied to the European Commission for an exemption from limits on government assistance during the restructuring period, similar to the exemptions granted Spain and Portugal under the Sixth Directive. In March 1991, the Economics Ministry of the German government announced that it would provide dm830 million ($553 million) in subsidies to the east German shipyards that submitted acceptable plans for reorganizing, and dm150 million ($100 million) a month in loan guarantees for an unspecified period. The guarantees will be handled through the Treuhandanstalt, the trust agency set up to handle the privatization of former government-owned, East German companies.

Italy - The principal commercial shipbuilding yards in Italy belong to the state-owned Fincantieri, which controls about 70 percent of Italian shipbuilding capacity. Despite a large orderbook, Fincantieri's losses have continually worsened since 1987. In June 1990, the Commission of the European Community allowed the following amounts of loss compensation aid to Fincantieri: L(lira)90 billion ($ 69.4 million), representing 21.2 percent of turnover, for 1987; and L138.7 billion ($106.5 million), representing 22.5 percent of turnover, for 1988. Preliminary reports have indicated that 1989 losses will be even greater than those of 1988. In addition, Fincantieri received the following amounts of aid, deemed by the EC Commission to be inconsistent with normal commercial terms associated with public ownership of or participation in shipyards: $3.1 million in 1987 and $16.9 million in 1988.

Italian shipbuilders can receive modernization aid (without increasing capacity) of up to 40 percent of the investment. Ship repair yards can be paid by the government for up to 80 percent of their investments. If yards reduce capacity by converting to other activities, they may receive government loans to cover 50 percent of the costs. Yards in the Mezzogiorno may receive 70 percent government loans. Actual payments in the form of grants to shipyards for investment in production facilities and modernization from 1987 through 1989 represented 40 percent of costs.

### 2.4 Shipbuilding-Related Research and Development (R&D)

Japan - Japanese ship-related R&D projects frequently involve cooperative ventures of government, private industry, and universities. Prior to 1974, the focus was on lowering production and operational costs. In 1986, the Council for Rationalization of the Shipping and Shipbuilding Industries (CRSSI), an advisory council to the Ministry of Transport set up in 1952, recommended that the government promote technological innovation, particularly for high value-added ships. Areas such as artificial intelligence and computer-integrated production techniques have been emphasized. The Council for Transport Technology (CTT) has sponsored programs to develop technologies for intelligent and high-reliability vessels in place since 1983. It is expected that the $50 million "Ship of the Future" designed to operate with low manning requirements will be in production by the mid-1990s. In addition, research conducted on ship applications of superconducting machinery resulted in the YAMOTO I, a prototype of a superconductive electromagnetic propulsion vessel christened on July 11, 1990. Meanwhile, the Japan Foundation for Shipbuilding Advancement has developed a propellerless ship design with government research funding. A 22-foot, 15-ton prototype is expected to be constructed by the mid-1990s.

Late in 1988, the President of the Shipbuilders' Association of Japan appealed to the government to establish a national and subsidized system for R&D of futuristic, efficient ships which can travel at high speeds. The outcome was the R&D for 21st Century Vessels program, set up in March 1989, through the Association for Structural Improvement of the Shipbuilding Industry (formerly the Designated Shipbuilding Enterprises Stablization Association ). Innovative marine R&D projects under the program, the government announced, would require government funding because they were too risky to be borne by private industry alone. The first projects funded under the program: the hull and engine of a fast cargo ship called the Super-Technoliner. The most recent subsidized project announced by the government in December 1990 is development of an environmentally-sensitive tanker. Three designs are being considered for development, of which two are double-hull designs. The Japanese government also funds the Ship Research Institute, a national body established in 1963 to carry out research and testing projects in line with the policies formulated by the Ministry of Transport.

**EXAMPLES OF JAPANESE SUBSIDIZED SHIP/SHIPBUILDING R&D**

| R&D Program | Budget |
|---|---|
| ENVIRONMENTALLY-SENSITIVE TANKER | JFY 1991: *$19.5m* |
| R&D FOR 21ST CENTURY VESSELS | JFYs 1989/1993: y11.5b *($83m)* |
| --Super-Technoliner Program. The Super-Technoliner Research (STR) consortium was set up in July 1989 to develop the hull and engine of a 50-knot cargo ship prototype over five years. STR enjoys special financial and tax breaks. | JFYs 1989/1993: y9b *($65m)*<br>GoJ est. subsidy element: y3b *($23.3m)** |
| --Advanced Diesel Development Program. The Advanced Diesel Development Corp. was set up in Oct. 1989 to develop a 6-month maintenance-free engine. Subsidies include investment and financing aid from the Japan Development Bank at the most favorable rates. The JDB holds a 25% equity share. | JFYs 1989/1994: yen2.5b *($18m)*<br>GoJ est. subsidy element: y1b *($7.2m)** |
| PROPELLERLESS SHIP DESIGN | JFY 1988: *$1.4m* |
| SUPERCONDUCTOR RESEARCH FOR SHIPS<br>Investigations are being conducted on applying superconductors to power ships. One is being carried out by the Japan Marine Machinery Development Assoc./Sumitomo Heavy Industries; the other by Kobe University and Kawasaki. | Late 80s, early 90s. Program cost not revealed.<br>Subsidy element not revealed. |
| HIGH-RELIABILITY INTELLIGENT SHIP<br>Developed through the Japanese Shipbuilding Research Association. | JFYs 1983/1988: *$50m*<br>Subsidy element not revealed. |
| SHIP RESEARCH INSTITUTE | JFY 1987: y2.7b *($20m)*<br>JFY 1988: y2.7b *($21m)*<br>JFY 1989: y2.7b *($19.7m)* |

* *Subsidy element estimates provided by the government. However, Japan narrowly defines its subsidies.*

**Germany** - The German government has indicated that it funds two types of ship/shipbuilding R&D, as described in the table below. The government will also subsidize the purchase of foreign technology for a yard if this technology is not available nationally. The government has not disclosed the specific ship/shipbuilding R&D projects it sponsors; consequently, the programs listed in the second table were taken from a marketing publication.

GERMAN GOVERNMENT ESTIMATES OF R&D SUBSIDIES

| Aid Description | 1987 | 1988 | 1989 |
|---|---|---|---|
| Funds disbursed for R&D of shipbuilding techniques that are executed by the shipyards. | dm1.6m *($890,000)* | dm1.8m *($1.0m)* | dm2.0m *($1.1m)* |
| Funds disbursed to research institutes and/or universities for basic ship/shipbuilding R&D. | dm6.47m ($3.6m) | dm6.16m *($3.5m)* | dm4.97m *($2.6m)* |

EXAMPLES OF GERMAN GOVT.-SUPPORTED SHIP/SHIPBUILDING R&D PROJECTS BEGUN IN 1988

| R&D Program | Sponsor(s) | Subsidy |
|---|---|---|
| Production Techniques in Shipbuilding. R&D in computer-controlled ship fabrication. Described as a first-time application of public and private funds to achieve a systematically structured and product related EDP system, along with complementary projects. | Federal Ministry of Research & Technology (BMFT). Managed by the German Shipbuilding Industry Research Center (FDS). | dm25m ($14.2m) |
| Production Techniques in Shipbuilding. Complementary research to the above project. | Funded by the Federal Ministry of Economics. Coordinated by FDS. | Subsidy amounts not disclosed. |
| NEUTRABAS (Neutral Product Definition Database for Large Multifunctional Systems) and ROCOCO (Real Time Monitoring and Control of Construction Site Manufacturing) projects that are part of the ESPRIT Program. Open to international participation. | Supported by the Federal Ministry of Economics. Coordinated by FDS. | 50% of costs. Subsidy amounts not disclosed. |
| Future Dimensioning and Patterns of Ship Designs. Comprehensive study begun in 1988 and intended for long-term applications. During a trial period, German shipyards will apply findings to their design and manufacturing activities. Includes CAD research for simplifying production of finite element models and CAD-CAM coupling. | Supported by the Federal Ministry of Research & Technology. Performed by Germanisher Lloyd, the German ship classification society. | Subsidy amounts not disclosed. |
| Ship Operation System (SHOPSY). Analyses of ideas for plant sector R&D and production of a ship management information system. Described as a continuation of the German "Ship of the Future" project. | Subsidized by the BMFT. Coordinated by Germanischer Lloyd. | Subsidy amounts not disclosed. |

**South Korea, The Netherlands, Denmark, and Italy** - Government policies toward ship and shipbuilding research and development aid for these four countries are summarized in the following table:

**R&D AID IN S. KOREA, NETHERLANDS, DENMARK, AND ITALY**

| Country/Aid Description | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|
| **S. KOREA**<br>--Funding available to major Korean shipbuilders and various Korean research bodies to develop ship design automation by 2001. | - | - | - | *$492m* |
| **NETHERLANDS**<br>--Funding to research institutes. | DFL US$<br>27.27m *13.4m* | DFL US$<br>27.27m *13.8m* | DFL US$<br>27.27m *12.7m* | DFL US$<br>27.27m *15.3m* |
| **DENMARK**<br>--Shipbuilding research.<br>--Technological vessel develop. | DKK US$<br>6.6m *0.97m*<br>16.6m *2.4m*<br>23.2m *3.4m* | DKK US$<br>9.2m *1.4m*<br>5.5m *0.81m*<br>14.7m *2.2m* | DKK US$<br>7.8m *1.1m*<br>2.0m *0.3m*<br>9.8m *1.4m* | - |
| **ITALY** (Budgeted amounts)<br>--Up to 90% of cost of research in ship design and ship propulsion, and up to 50% of cost of prototypes. | - | Lira US$<br>53.4b *41m* | Lira US$<br>20b *14.6m* | 1991:<br>Lira US$<br>20b *16.1m* |

## 3. OTHER SUBSIDY-RELATED CONSIDERATIONS

### 3.1 Below-Cost Ship Pricing

One of the major effects of shipbuilding subsidies in the 1980s was the underpricing of ships, although it has only been since the market upturn in 1988 that the practice began to be openly admitted. Here are three comments that have been published on the subject:

*"Directly, government assistance has led to reduced newbuilding prices by providing direct subsidies to individual contracts and by providing an environment which allows yards to make available cheap finance. Indirectly, governments have allowed yards to run up substantial losses on newbuildings operations and have underwritten such losses."* . . . . . Drewry Shipping Consultants, ***World Shipbuilding Market: Prospects to 2000;*** November 1988

*"Officially, it was pretended that low prices were based on high efficiency and losses were explained as the deplorable results of variations in exchange rates, higher material costs, and unforeseen burdens of ship financing. In a very few cases, the failure of wrong market strategies and fixing of prices without making provision for technical and commercial risks were admitted."* . . . . . Werner Fante, Director, Association of West European Shipbuilders; Conference, Genoa, Italy; November 1989

*"Instead of tackling the [shipbuilding] capacity reduction with a single clean cut, most shipbuilders tackled restructuring as a series of steps down, interspersed with periods of consolidation, during which each shipyard sought to maintain its market share at the expense of others by means of price cutting backed by subsidy."* Martin Stopford, Shipping Economist; Marketing Seminar, Shipbuilders Council of America, Washington, D.C.; January 1989

**South Korea** - South Korea built up its shipbuilding industry in the 1980s by lowballing ship prices, subsidized by the state-controlled Korean Development Bank. (See subsection 2.3, Restructuring/Investment Aid.) The yards piled up enormous debts as a result. At the time of the filing of SCA's petition in June of 1989, the debt of the four major South Korean yards, was $4 billion, equivalent to four times their equity capital.

In August 1989, to prevent price-cutting among Korean builders competing for contracts, the Korean government announced that it was going to introduce a system to monitor ship exports until 1993. In early 1990, it was announced that the system would require Korean shipbuilders to get export recommendation clearance from the Korea Shipbuilders' Association before a new contract could be signed. Hyundai, Daewoo, and Samsung called the system unworkable and said they would prefer to rely on self-regulation.

**Japan** - Although some of the programs and practices that allowed Japanese shipbuilders to operate at unprofitable levels during much of the 1980s can be quantified in monetary terms, others cannot. The latter includes programs which not only have been of vital importance to the survival of the Japanese shipbuilding industry during the market depression of the 1980s, but also have allowed it to enjoy competitive advantages unmatched in any other country. The leadership in Japanese shipbuilding comes from the seat of government; namely, the Ministry of Transport. Every aspect of shipbuilding policy in Japan is set and overseen by the MOT, from what shipyard improvements are made, to what facilities are disposed of, to how much tonnage can be produced, to what kind of ships to design and build, to budget recommendations for ship financing. It was the MOT that organized the Japanese shipbuilding cartel in 1987 and disbanded it in September 1989 when the market improved. Japan's shipbuilders are still organized into MOT-approved shipbuilding groups, however.

**Germany** - Even today, despite a dramatic upturn in ship prices in 1989 and 1990, many shipyards are not operating profitably. In Germany, for example, the shipbuilding industry is not prepared to compete competitively on the world market unless they are subsidized. After the government announced that contract-related shipbuilding subsidies would be dropped in 1991, tremendous political pressure was applied to keep German shipbuilders on the government dole. The four coastal states (Bremen, Lower Saxony, Schleswig-Holstein, and Hamburg) went so far as to commission an independent study to prove that German shipyards are not competitive without government aid. The study, published in September 1990 by Treuhand Hamburg, an independent auditing and consulting firm, concluded that continued payment of government subsidies was "vital" to German yards and that many yards lacked the capital resources to handle risks satisfactorily.

Earlier (June 1990), Treuarbeit, reporting on the results of its audit of German shipyards in 1989, indicated that the largest yards produced merchant ships at prices averaging 26 percent below costs. Operating losses at medium-sized yards averaged 24 percent and 18 percent at small yards. Overall, ship pricing was 22.7 percent below costs. This audit was conducted by Treuarbeit, on behalf of the coastal states. According to the audit, if the ships contracted for in 1989 had been offered at 1990 prices, operating losses would still have averaged 10 percent before subsidies.

### 3.2 Government Ownership of Shipyards

Almost all shipyards active in the international commercial market during most of the 1980s lost money, including those yards in which governments held equity positions. In some cases--such as in the United Kingdom--the financial drain on the state treasury caused governments to privitize the yards. A more common scenario, however, was for governments to pour more money into the yards in order to keep them afloat. This is what happened in Germany, Italy, and Spain, for example. Since Spain is not included in this report, suffice it to say the Spanish government is expected to cover $1.6 billion in losses in the public yards over the four-year period 1987 through 1990. Losses at Italy's state-owned yards of Fincantieri, which represent about 70 percent of Italian shipbuilding capacity, have gotten steadily worse since 1987, with the government picking up the tab.

Germany's primary shipbuilding groups in which there is government ownership are Bremer Vulkan and Howaldtswerke Deutsche Werft (HDW). Between 1987 and 1990, the German government invested around dm450 million ($254 million in cash infusions and guarantees) in these shipyards, which also received other favorable treatment as well, particularly in the allocation of ship production subsidies. For example, the 1988 and 1989 export ship orderbook of HDW was heavily subsidized, mostly through grant aid and financing aid to large shipping companies from lesser-developed countries (see subsection 3.3). Until recently, HDW was wholly government-owned. The state of Bremen holds a 26.1% share in the Bremer Vulkan group. Ownership in other yards is also held by the states of Schleswig-Holstein and Bremen.

### 3.3 Aid to Lesser-Developed Countries

There are no OECD or EC limitations on the support governments can provide to subsidize contracts to build ships for owners from lesser-developed countries. West German shipyards in particular have wooed large shipowners from LDCs with heavily subsidized contracts exempt from the usual limitations. In 1988, for example, German shipyards were under contract to build 24 vessels under the special government-financed subsidy scheme for developing countries. This included ten containerships for three of the world's largest shipping companies, all placed with either HDW or Bremer Vulkan shipyards: four for Zim Israel [*grant element* - 25.4% on dm100.1m ($57m) per ship = dm25.43m ($14.5m) per ship; *financing* - 100% at 2.5% interest with 10 years to repay after a one-year's grace]; two to four containerships for China Ocean Shipping [*grant element* - 34.67% on dm100m ($55.6m) per ship = dm34.67m ($19.3m) per ship; *financing* - 100% at 3.75% interest with 15 years to pay

after one-year's grace]; and two for Singapore's Norasia [*grant element* - 28.65% of dm74m ($42.12m) per ship = dm21.2m ($12.1m ) per ship; *financing* - 45% at 3.5% interest with 8 years to pay after two year's grace for first ship, and 45% financing at 3% interest with 12 years to pay after a six year's grace for second ship.]

## 4. CONCLUSIONS

***1. There is a definite correlation between the success of the top shipbuilding countries in capturing the most contracts and the amount of government support they have received and continue to receive.***

This is particularly true in the top three shipbuilding countries: Japan, South Korea, and Germany. Of the remaining countries studied in this report, Italy is also a heavy subsidizer of shipbuilding and The Netherlands is a moderate subsidizer. Denmark provides the least amount of shipbuilding-related subsidy and has initiated action to progressively reduce this support to the level allowed in the OECD understanding on government-assisted ship financing.

***2. Shipbuilding subsidies throughout the 1980s kept shipyards alive while they operated at a deficit, producing ships at below cost.***

Despite improvements in the commercial shipbuilding market and higher ship prices, governments are continuing to prop up many shipyards that still cannot operate at a profit. In fact, in Germany, the coastal states actually hired consultants to perform studies that proved its shipyards are not operating profitably, and this proof is used as a political argument to support the continuation of shipbuilding subsidies.

***3. Contrary to what some observers have been saying, worldwide shipbuilding subsidies are not necessarily going down.***

Although the world commercial shipbuilding market has improved significantly during the past three years, there has not been a corresponding drop in shipbuilding subsidies. In fact, since trade negotiations began in July 1989 within the Organization for Economic Cooperation and Development to discipline shipbuilding subsidy practices, just the three top OECD shipbuilding countries--Japan, South Korea, and Germany--have proposed, approved, or disbursed over $4.5 billion in new shipbuilding aid.

The decision by the Commission of the European Community to lower ceilings on allowable contract-related shipbuilding aid has created the false impression that shipbuilding subsidies are declining in EC nations. What the ceilings do is limit the percentage (intensity) of government aid that can be applied to shipbuilding contracts in the EC; what they do not do is automatically limit the total amount of government money available to subsidize contracts.

In a country with only a few contracts to be subsidized, lowered aid ceilings can have a significant impact. In a country with a proportionately higher number of contracts, however, the lowered subsidy ceilings mean that the government aid must be spread among many contracts

rather than be concentrated on a few. The total amount of aid allocated does not necessarily go down, and in fact, it can go up as has been the case in Germany, the EC's top ship-producing member.

***4. Subsidy programs are being expanded and new subsidy programs are being created in the top shipbuilding countries of the world in order to secure their market niches.***

Government financing of new ship purchases is a category of subsidy that is being funded at increasingly higher levels as the shipbuilding market has improved. In Germany, for example, the amount of government funding for export ship credits and guarantees in 1989 ($1.258 billion) rose by 500 percent over the amount funded in 1987 ($208 million).

The popularity of government-assisted financing as a subsidy is dependent on a number of variables, particularly the availability of commercial ship finance and the attractiveness of commercial interest rates as compared to government rates. Currently, tight money markets, coupled with rising interest rates in Japan--the shipbuilding center of the world--could stimulate government-assisted financing for replacement ships in the world's aging merchant fleet. Shipbuilding industries in those countries where the mechanism for providing government financing to private industry is well established have a definite advantage when government-assisted financing is sought.

Many export ship customers have come to expect government aid in making contracts with Northern European yards more attractive. Frequently, there is close cooperation and coordination between government and the private banks in countries such as West Germany, where ship financing is available not only from the public sector but is emphasized in the commercial sector as well. This gives the shipyards another competitive advantage.

Another type of shipbuilding-related subsidy that is on the increase is government-assisted research and development relating to ships and shipbuilding. The Japanese government, for example, decided early in 1989 to subsidize the development of a fast cargo ship, and in late 1990 announced that it was subsidizing the development of an environmentally-sensitive tanker. Meanwhile, the government of South Korea announced that it was providing $492 million to major Korean shipbuilders and various Korean research bodies to develop ship design automation by 2001.

***3. Some types of shipbuilding-related aid programs in some countries are being phased out because they have achieved their purpose. Restructuring and investment aid falls into this category.***

In Japan and Europe, governments spent hundreds of millions of dollars to restructure and modernize shipyards in the mid- to late-1980s. In general, this type of aid is on the wane in Europe, but there are important exceptions. Recently, for example, the German government applied to the EC Commission for an exemption from aid restrictions--similar to the exemption granted to Spain--while the formerly East German yards are being restructured. The cost to the government for this restructuring has been estimated as high as $4 billion.

In Japan, a number of fiscal and non-fiscal measures were taken to aid Japanese shipyards

during restructuring. Because Japan had overbuilt its shipbuilding capacity on an unprecedented scale with government help, it received massive government assistance to reduce overcapacity, including buying up unproductive land and facilities as well as providing financial aid to shipyards to mothball redundant facilities and modernize operations. In addition, the shipbuilders were allowed to form a cartel in 1987, which was disbanded in 1989, after the market had improved significantly. The net effect of these policies and practices in stifling competition in the world market will go far beyond the years in which they were implemented.

***4. Government ownership of shipyards has been a significant factor in shipbuilding subsidization in Europe, particularly in Germany, Italy, and Spain.***

Two of Germany's major shipbuilding groups in which there is government equity, Bremer Vulkan and Howaldtswerke Deutsche Werft (HDW), are examples. During the hard times of the mid-1980s, these yards received cash infusions and guarantees from both the federal and regional governments in Germany to keep them going, and were especially favored in the allocation of ship production subsidies to capture contracts.

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